

Aerial Detection Survey Update

Background: Annual aerial detection surveys for tree mortality and injury have been conducted annually since 1994. This is an update of survey status for the 2014 season.

Objective: Detect and map tree mortality and damage in California / USFS Region 5.

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Methodology: Recently dead and damaged trees (still retaining dead foliage) were mapped visually by surveyors using digital aerial sketch-mapping systems, flying in a light fixed-wing aircraft approximately 1,500 feet above ground level. Surveyors record the number and species of affected trees and type of damage (mortality, defoliation, etc.) at each mapped location.

Details:

- Almost 5.8 million acres were surveyed, covering Lassen Volcanic National Park, Lassen and Modoc National Forests, and parts of the Klamath, Shasta-Trinity and Plumas National Forests. See Figure 1.
- Overall, visible mortality increased in this part of the State. About 180,000 acres with some amount of mortality was mapped in 2014, about 70,000 more than last year. The majority of this mortality was observed in white fir, ponderosa and Jeffrey pine. Figures 2 to 4.
- On the Modoc, a large increase in both white fir and pine mortality was observed. On the Lassen, acreage with fir mortality appeared to double, but pine mortality remained at similar levels as last year. Fir mortality was also mapped at a greater extent on the Lassen National Park as well.
- Douglas-fir tussock moth was observed on the Lassen National Forest, defoliating about 3,000 acres of white fir. Figure 5.
- Very little recent mortality from Douglas-fir beetle was observed this year. Most trees appeared to have died several years ago.
- Mortality related to mountain pine beetle appeared to decrease in most places, in comparison to last year.
- Juniper mortality and other damage such as topkill and flagging, which is rarely observed during aerial surveys, was observed in several locations this year. Figure 6.
- Large areas of red fir with severe Cytospora canker were observed at higher elevations. Figure 7.

Figure 1. Flown area and mapped tree mortality and damage

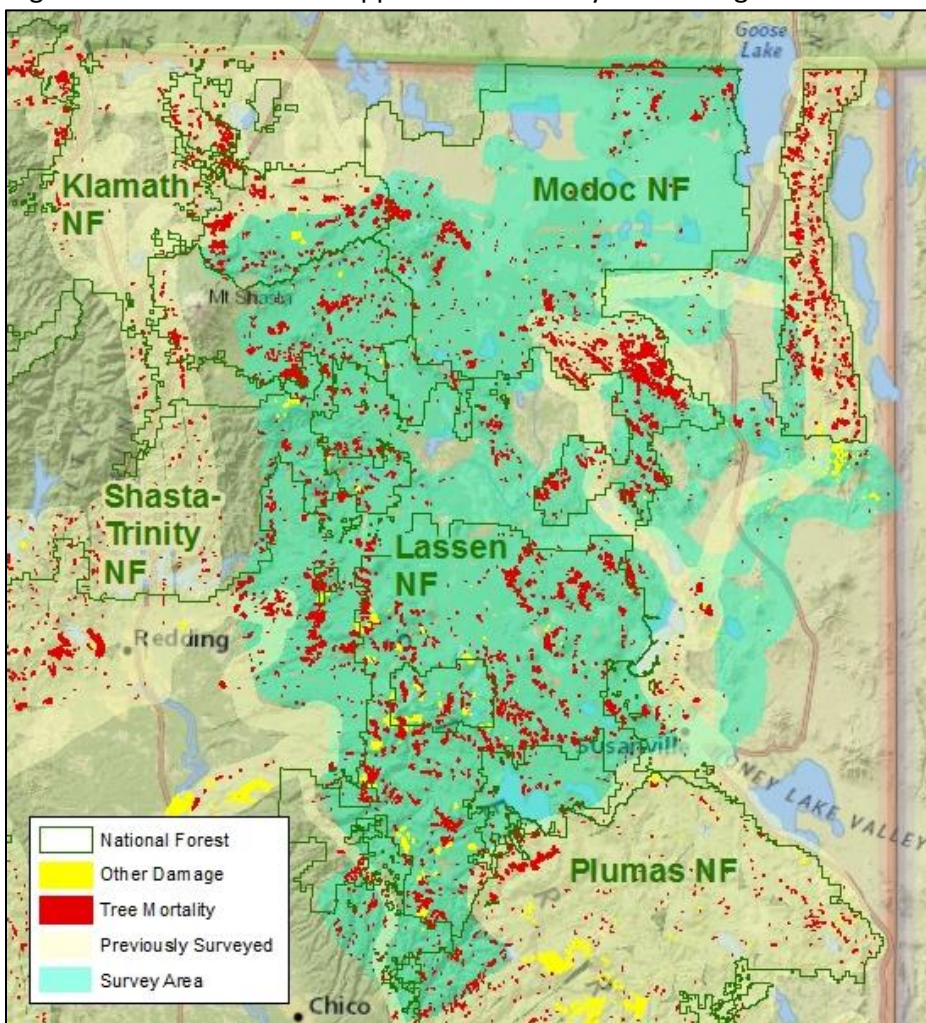


Figure 2. Pine mortality near Fall River Mills.



Figure 3. Pine mortality on the southern Modoc.



Figure 4. White fir mortality near Eagle Lake.



Figure 5. Defoliation from Douglas-fir tussock moth, near Eagle Lake.



Figure 6. Juniper mortality near the Modoc National Forest.



Figure 7. Red fir mortality and flagging in the Thousand Lakes Wilderness, Lassen National Forest.

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